What is claimed is:

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1. A method of estimating channel order of a bounded length channel having at most L non zero taps located within an M symbol time interval, said method comprising the steps of:

calculating an initial channel estimate using a channel length of M taps;

calculating the energy of the taps of said initial channel estimate;

averaging said tap energies over time;

selecting a threshold in accordance with a noise floor calculated using the M-L taps having the lowest average energies;

setting the channel order N to the number of taps above said threshold; and

wherein L, M and N are positive integers.

2. The method according to claim 1, wherein said step of calculating said initial channel estimate is performed using a least squares technique.

3. The method according to claim 1, wherein said step of calculating said initial channel estimate is performed using a correlation technique.

4. The method according to claim 1, wherein said channel taps are represented as zero mean, complex, Gaussian random processes.

5. The method according to claim 1, wherein said channel taps are represented as non zero-mean, complex, Gaussian random processes.

6. The method according to claim 1, wherein said channel taps vary over time.

7. A method of calculating an estimate of a bounded length channel having at most L non zero taps located within M symbol time intervals, said method comprising the steps of:

calculating an initial channel estimate using a channel length of M taps;

calculating the energy of the taps of said initial channel estimate;

averaging said tap energies over time;

selecting a threshold in accordance with a noise floor calculated using the M-L taps having the lowest average energies;

selecting a number of taps N that are larger than said threshold;

recalculating the value of said N channel taps; and

wherein L, M and N are positive integers.

8. The method according to claim 7, wherein said step of calculating said initial channel estimate is performed using a least squares technique.

9. The method according to claim 7, wherein said step of calculating said initial channel estimate is performed using a correlation technique.

10. The method according to claim 7, wherein said channel taps are represented as zero mean, complex, Gaussian random processes.

11. The method according to claim 7, wherein said channel taps are represented as non zero mean, complex, Gaussian random processes.

12. The method according to claim 7, wherein said channel taps vary over time.

13. A cellular radio receiver for receiving and decoding a transmitted cellular signal, comprising:

a radio frequency (RF) receiver circuit for receiving and downconverting said transmitted cellular signal to a baseband signal;

a demodulator adapted to demodulate said baseband signal in accordance with the modulation scheme used to generate said transmitted cellular signal;

an equalizer comprising signal processing means programmed to:

calculate an estimate of a bounded length channel having at most L non zero taps located within an M symbol time interval;

calculate an initial channel estimate using a channel length of M taps;

calculate the energy of the taps of said initial channel estimate;

average said tap energies over time;

select a threshold in accordance with a noise floor calculated using the M-L taps having the lowest average energies;

select a number of taps N that are larger than said threshold;

recalculate the value of said N channel taps;

a channel decoder adapted to decode the output of said equalizer so as to generate a decoded output data signal; and

wherein L, M and N are positive integers.

14. The receiver according to claim 13, further comprising a speech decoder operative to convert said decoded output data signal to an audible speech signal.

15. The receiver according to claim 13, further comprising circuit switch data means for converting said decoded output data signal to a data stream.

16. The receiver according to claim 13, further comprising packet switch data means for converting said decoded output data signal to a data stream.

17. The receiver according to claim 13, wherein said equalizer is adapted to calculate said initial channel estimate utilizing a least squares technique.

18. The receiver according to claim 13, wherein said equalizer is adapted to calculate said initial channel estimate utilizing a correlation technique.

19. The receiver according to claim 13, wherein said channel taps are represented as zero means, complex, Gaussian random processes.

20. The receiver according to claim 13, wherein said channel taps are represented as non zero-mean, complex, Gaussian random processes.

21. The receiver according to claim 13, wherein said channel taps vary over time.

22. The receiver according to claim 13, wherein said equalizer comprises means for performing a maximum likelihood sequence estimation (MLSE) technique.

23. The receiver according to claim 13, wherein said equalizer comprises means for performing a sub-optimal complexity reduced maximum likelihood sequence estimation (MLSE) technique.

24. The receiver according to claim 13, wherein said equalizer comprises means for performing a decision feedback equalization (DFE) technique.

25. The receiver according to claim 13, wherein said receiver is adapted to receive and decode a global system for mobile communications (GSM) cellular signal.

26. In a communication receiver coupled to a bounded length channel, a method of estimating the order of said channel having a plurality of non zero taps located within a plurality of symbol time intervals, said method comprising the steps of:

calculating an initial channel estimate using a channel length comprising a first number of taps;

averaging over time the energy of said initial channel estimate utilizing said first number of taps;

selecting a threshold in accordance with a noise floor calculated using those taps corresponding to the lowest average energies; and

setting the channel order equal to the number of taps above said threshold.

27. The method according to claim 26, wherein step of calculating said initial channel estimate is performed using a least squares technique.

28. The method according to claim 26, wherein step of calculating said initial channel estimate is performed using a correlation technique.

29. The method according to claim 26, wherein said channel taps are represented as zero mean, complex, Gaussian random processes.

30. The method according to claim 26, wherein said channel taps are represented as non zero-mean, complex, Gaussian random processes.

31. The method according to claim 26, wherein said channel taps vary over time.

A25